

REMARKS/ARGUMENTS

Status of Claims

Claims 1, 14, and 16-20 have been amended.

Claims 2 and 15 have been canceled.

Thus, claims 1, 3-14, and 16-21 are currently pending in this application.

Applicant hereby requests further examination and reconsideration of the presently claimed application.

Examiner Interview

Applicant thanks the Examiner for the courtesy of a telephonic interview on March 3, 2010 during which the pending claims and cited reference were discussed.

Claim Objections

Applicant respectfully submits that the informalities objected to in claims 14-20 have been overcome by amending the claims as recommended by the Examiner.

Claim Rejections – 35 U.S.C. § 102

Claim 1 stands rejected under 35 U.S.C. § 102(b) as being anticipated by Hammerlich, et al., U.S. Patent No. 5,159,411 (hereinafter “*Hammerlich*”). Applicant notes claim 2 was not rejected under 35 U.S.C. § 102(b) as being anticipated by *Hammerlich*. Consequently, Applicant has amended claim 1 to incorporate the limitations of now canceled claim 2 and respectfully submit claim 1 is not anticipated by *Hammerlich*.

Claim Rejections – 35 U.S.C. § 103

Claims 2-21 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over *Hammerlich*. Claims 2 and 15 are currently canceled. Claims 3-13 depend from claim 1 while

claims 16-21 depend from claim 14. Thus, the pending claims stand or fall on the application of the cited reference to independent claims 1 and 14.

The Legal Standard of Obviousness Under 35 U.S.C. § 103(a).

The MPEP provides:

The key to supporting any rejection under 35 U.S.C. 103 is the clear articulation of the reason(s) why the claimed invention would have been obvious. The Supreme Court in *KSR* noted that the analysis supporting a rejection under 35 U.S.C. 103 should be made explicit.

See MPEP § 2143.

In *KSR Int'l Co. v. Teleflex, Inc.*, the United States Supreme Court also noted that, “a patent composed of several elements is not proved obvious merely by demonstrating that each of its elements was, independently, known in the prior art,” but, additionally whether “the claim extends to what is obvious.” See *KSR Int'l Co. v. Teleflex, Inc.*, 127 S. Ct. 1727, 1741-42 (2007). The Supreme Court went on to explain that an obviousness determination is based upon a “proper application of *Graham*,” including consideration of “secondary factors” that may weigh against an obviousness determination. See *KSR Int'l Co. v. Teleflex, Inc.*, 127 S. Ct. at 1745 (citing *Graham v. John Deere Co. of Kansas City, et al.*, 383 U.S. 1, 148 U.S.P.Q. 459 (1966)). The “proper application of *Graham*” begins with a determination of whether the cited prior art contains all the elements of the contested claims. See *Graham v. John Deere Co. of Kansas City*, 383 U.S. at 22 (an obviousness determination begins with a finding that “the prior art as a whole in one form or another contains all” the elements of the claimed invention).

Applicant respectfully submits the pending claims are patentable over the cited reference as *Hammerlich* does not contain all the elements of the instantly claimed subject matter. As noted previously, Applicant have amended claim 1 to incorporate the limitations of now canceled claim 2 and recite:

A method for detecting a target fluid in a fluid sample comprising a first fluid and the target fluid using photoacoustic spectroscopy (PAS), the method comprising:

- a) providing a light source configured to introduce an optical signal having at least one wavelength into the fluid sample;
- b) modulating the optical signal at a desired modulation frequency such that the optical signal generates an acoustic signal in the fluid sample **wherein the desired modulation frequency is greater than the relaxation rate of at least one of the first and target fluids;**
- c) measuring the acoustic signal with an acoustic transducer; and
- d) using the phase of the acoustic signal to detect the presence of the target fluid.

See supra, emphasis added. Claim 14 has similarly been amended to incorporate the limitations of now canceled claim 15. Applicant contends that *Hammerlich* does not recite the instantly claimed limitation that the ***desired modulation frequency is greater than the relaxation rate of at least one of the first and target fluids***. Further, as discussed in the Examiner Interview, one of ordinary skill in the art would typically avoid employing a modulation frequency greater than the relaxation rate of at least one of the first and target fluids. As is known in the art, a modulation frequency less than the relaxation rate ensures that the vibrational energy generated by the frequency is converted to translational energy which in turn produces the photoacoustic signal. The instantly claimed modulation frequency greater than the relaxation rate of at least one of the first and target fluids traverses the teachings of the art as the methodology reduces the photoacoustic signal produced. Consequently, Applicant submits claims 1, 15, and all claims depending therefrom are patentable over *Hammelich* and respectfully request withdrawal of the rejections.

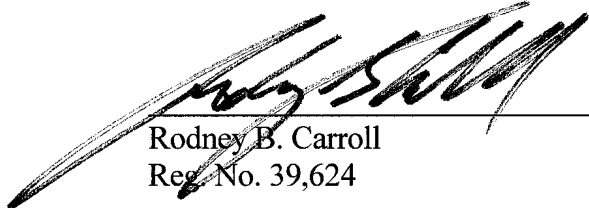
CONCLUSION

Consideration of the foregoing amendments and remarks, reconsideration of the application, and withdrawal of the rejections are respectfully requested by Applicant. No new matter is introduced by way of the amendment. It is believed that each ground of rejection raised in the Office Action dated November 12, 2009 has been fully addressed. If any fee is due as a result of the filing of this paper, please appropriately charge such fee to Deposit Account Number 50-1515 of Conley Rose, P.C., Texas. If a petition for extension of time is necessary in order for this paper to be deemed timely filed, please consider this a petition therefore.

If a telephone conference would facilitate the resolution of any issue or expedite the prosecution of the application, the Examiner is invited to telephone the undersigned at the telephone number given below.

Respectfully submitted,
CONLEY ROSE, P.C.

Date: 3-10-10


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